

Mr. Michael T. Davis

Algebra 2 - Delta & Eta

Exponents Day 7: Multiplying & Dividing Radical Expressions

Name: _____

Date: _____

Multiply. Simplify if possible.

$$(\sqrt{2})(\sqrt{8})$$

$$(\sqrt[3]{-5})(\sqrt[3]{25})$$

$$(\sqrt{-2})(\sqrt{8})$$

$$(\sqrt[3]{3})(\sqrt[3]{-9})$$

$$\sqrt[4]{4} \cdot \sqrt[4]{-4}$$

$$\sqrt{8} \cdot \sqrt{32}$$

$$\sqrt[3]{4} \cdot \sqrt[3]{16}$$

$$\sqrt{5} \cdot \sqrt{-5}$$

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Simplify the following radical expressions.

$$\sqrt{72x^3}$$

$$\sqrt[3]{80x^5}$$

$$\sqrt{50x^4}$$

$$\sqrt[3]{18x^4}$$

$$\sqrt{20x^3}$$

$$\sqrt[3]{81x^2}$$

$$\sqrt{50x^5}$$

$$\sqrt[3]{32a^5}$$

$$\sqrt[3]{54y^{10}}$$

$$\sqrt{200a^6b^7}$$

$$\sqrt[3]{-250x^6y^5}$$

$$\sqrt[4]{64x^3y^6}$$

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Multiply and simplify. Assume that all variables are positive.

$$\sqrt[3]{54x^2y^3} \cdot \sqrt[3]{5x^3y^4}$$

$$3\sqrt{7x^3} \cdot 2\sqrt{21x^3y^2}$$

$$\sqrt[3]{6} \cdot \sqrt[3]{16}$$

$$\sqrt{8y^5} \cdot \sqrt{40y^2}$$

$$\sqrt{7x^5} \cdot \sqrt{42xy^9}$$

$$4\sqrt{2x} \cdot 5\sqrt{6xy^2}$$

$$3\sqrt[3]{5y^3} \cdot 2\sqrt[3]{50y^4}$$

$$-\sqrt[3]{2x^2y^2} \cdot 2\sqrt[3]{15x^5y^7}$$

Dividing Radical Expressions

$$\frac{\sqrt{25}}{\sqrt{36}}$$

$$\frac{\sqrt{100}}{\sqrt{81}}$$

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$$\frac{\sqrt[3]{32}}{\sqrt[3]{-4}}$$

$$\frac{\sqrt[3]{162x^5}}{\sqrt[3]{3x^2}}$$

$$\frac{\sqrt{243}}{\sqrt{27}}$$

$$\frac{\sqrt{12x^4}}{\sqrt{3x}}$$

$$\frac{\sqrt[4]{1024x^{15}}}{\sqrt[4]{4x}}$$

$$\frac{\sqrt{500}}{\sqrt{5}}$$

$$\frac{\sqrt{48x^3}}{\sqrt{3xy^2}}$$

$$\frac{\sqrt{56x^5y^5}}{\sqrt{7xy}}$$